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10/581,046	04/25/2007	Maki Sato	11197/15	6773

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KENYON & KENYON LLP
1500 K STREET N.W.
SUITE 700
WASHINGTON, DC 20005

EXAMINER
LEE, DORIS L

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1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,046	SATO ET AL.	
	Examiner	Art Unit	
	Doris L. Lee	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 22-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-12 and 22-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on April 9, 2009. In particular, claim 1 which has been amended to include new limitations regarding the thermoplastic resin. This combination of limitations was not present in the original claims. Thus, the following action is properly made final.

2. All outstanding objections and rejections, except for those maintained below, are withdrawn in light of applicant's amendment filed on April 9, 2009.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-9, 12, 22, and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi et al (US 6,245,880)** in view of **Endo et al (US 4,127,590).**

Regarding claims 1 and 3, Takeuchi teaches a thermoplastic resin composition (Abstract) comprising an organophosphorus compound represented by General Formula (2) (col. 5, lines 5-20) and General Formula (3) (col. 5, lines 25-50) and a thermoplastic resin (Abstract) and the phosphorus content is not less than 500 ppm and

not more that 500,000 ppm (col. 8, lines 14-15). Takeuchi teaches that the thermoplastic resin is a polyester (Abstract).

Takeuchi teaches that the condensation catalyst is an antimony compound (col. 6, lines 1-4), however, fails to teach that the composition contains a catalyst which is aluminum or germanium.

Endo teaches a polyester composition (Abstract) with an organophosphorus compound represented by General Formula (3) Abstract. Endo teaches that the polycondensation catalyst can be metal such as antimony or germanium (col. 12, lines 22-23).

In view of Endo's recognition that antimony and germanium are equivalent and interchangeable polycondensation catalysts for polyester, it would have been obvious to one of ordinary skill in the art to substitute one with the other and thereby arrive at the present invention. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See In re Ruff 118 USPQ 343 (CCPA 1958).

Regarding the limitation “for masterbatch”, case law holds that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Furthermore, applicants attention is drawn to MPEP 2111.02 which states that "if the body of a claim fully and intrinsically sets forth all the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction". Further, MPEP 2111.02 states that statements in the preamble reciting the purpose or intended use of the claimed invention must be evaluated to determine whether the purpose or intended use results in a structural difference between the claimed invention and the prior art. Only if such structural difference exists, does the recitation serve to limit the claim. If the prior art structure is capable of performing the intended use, then it meets the claim.

It is the examiner's position that the preamble does not state any distinct definition of any of the claimed invention's limitations and further that the purpose or intended use, i.e. for masterbatch, recited in the present claims does not result in a structural difference between the presently claimed invention and the prior art invention and further that the prior art structure which is a composition identical to that set forth in the present claims is capable of performing the recited purpose or intended use.

Regarding claims 2 and 4, Takeuchi teaches that the thermoplastic resin contains a bivalent metal in an amount from 1 – 150 ppm (col. 7, lines 50-60).

Regarding claim 5, Takeuchi teaches that the divalent metal is zinc (col. 8, lines 8-9).

Regarding claim 6, this is a product-by-process claim, patentability of said claim is based on the recited product (thermoplastic resin) and does not depend on its method of production. Since the instant product is the same as product disclosed by Takeuchi the claim is unpatentable even if the Takeuchi product was made by a different process. In re Marosi, 710 F2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). See MPEP 2113.

Regarding claim 7, Takeuchi teaches that the resin is polyester (Abstract).

Regarding claim 8, Takeuchi teaches that the polyester is polyethylene terephthalate (col. 22, lines 20-40).

Regarding claim 9, modified Takeuchi teaches that the polyester is made via a germanium catalyst (Endo, col. 12, lines 22-23).

Regarding claim 12, Takeuchi teaches that the L-value is greater than 25 (Col. 23, 24 Table 1).

Regarding claim 22, as Takeuchi teaches all the components of the thermoplastic composition, it is therefore inherent that the prior art composition has the claimed melt viscosity since such a property is evidently dependent upon the nature of the composition used. Case law holds that a material and its properties are inseparable. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Regarding claim 26, Takeuchi teaches a thermoplastic resin comprising an organophosphorus compound represented by General Formula (2) (col. 5, lines 5-20) and General Formula (3) (col. 5, lines 25-50) and a thermoplastic resin (Abstract) and the phosphorus content is not less than 500 ppm and not more that 500,000 ppm (col. 8, lines 14-15). It is noted that if the thermoplastic resin used is the same as the resin

used in the masterbatch, this will result just result in a dilution of the organophosphorus compound, and thus given the range of the phosphorus compound as cited above, Takeuchi teaches the claimed composition.

6. **Claim 10 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi et al (US 6,245,880)** in view of **Endo et al (US 4,127,590)** and **Tamura et al (US 2002/0186120).**

The discussion regarding Takeuchi and Endo in paragraph 5 above is incorporated here by reference.

Regarding claims 10 and 11, modified Takeuchi fails to teach the addition of a weather-resistance-imparting agent which is at least one compound selected from hindered-amine compounds, nitrogen-containing hindered phenolic compounds, metal salt hindered phenolic compounds, phenolic compounds, hindered phenolic compounds and sulfur compounds.

Tamura teaches a polyester composition (Abstract) teaches that hindered amines are photo stabilizers and hindered phenols are antioxidants ([0053]) and that these are conventional additives to resins ([0053]).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the hindered amine or the hindered phenol of Tamura in the composition of Takeuchi. One would have been motivated to do so in order to improve the resin's resistance to light and oxygen. They are combinable because they are concerned with the same field of endeavor, namely polyester resins.

7. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi et al (US 6,245,880)** in view of **Endo et al (US 4,127,590)** and **Marston et al (WO 02/063079)**

The discussion regarding Takeuchi and Endo in paragraph 5 above is incorporated here by reference.

Regarding claim 23, modified Takeuchi teaches the composition, but fails to teach that the thermoplastic resin composition is in the form of chips with a height, width or length of 1 mm or more.

Marston teaches that polyester chips are typically sized with a length of 3 mm and a cross-sectional diameter of 3 mm (page 29, 2nd paragraph).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use composition of Takeuchi in the chip size taught by Marston. One would have been motivated to do so in order to receive the expected benefit of people able to use the composition in an extruder (Marston, page 29, 2nd paragraph). They are combinable because they are concerned with the same field of endeavor, namely polyester resins.

8. **Claims 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi et al (US 6,245,880)** in view of **Endo et al (US 4,127,590), Eto et al (JP 2003-147063, see Derwent abstract for reference mapping)**, **Park et al (US 5,478,911)** and **Chen et al (US 5,916,677).**

The discussion regarding Takeuchi and Endo in paragraph 5 above is incorporated here by reference.

Regarding claim 24, modified Takeuchi discloses the thermoplastic resin as elucidated the rejection of claim 1 and claim 3 above. However, Takeuchi does not disclose the method of producing chips.

Eto teaches that polyester can be made into chips by discharging from an extruder and then solidified and then cut into chips (page 2, preferred process section). It is evidenced by Park that extrusion of polyester results in a spaghetti, or rod-like structure (col. 9, lines 1-10).

However, Eto fails to teach that the extruder is a spinneret.

Chen teaches that extrusion of polyester can occur in a spinneret (col. 3, lines 18-25).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the method of Eto on the composition of Takeuchi. One would have been motivated to do so in order to make the material taught by Takeuchi into chip size which is a typical size for many polymer processing methods. They are combinable because they are both concerned with the same field of endeavor, namely polyester.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the spinneret, because it would be nothing more than the use of a known technique to a known product to yield predictable results. KSR v. Teleflex, 550 U.S. _, 82 USPQ2d 1385 (2007).

Regarding claim 25, modified Takeuchi teaches that cooling with air can occur prior to cooling the polyester with water (Eto, page 2, preferred process section).

It is the examiner's position that the air cooling time is a result effective variables because changing them will clearly affect the type of product obtained. The air cooling time is dependent on many variables, such as diameter of the extruded material, speed of extrusion, temperature of the air, the air flow rate, etc... See MPEP § 2144.05 (B). Case law holds that "discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art." See In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In view of this, it would have been obvious to one of ordinary skill in the art to utilize appropriate air cooling time, including those within the scope of the present claims, so as to produce desired end results.

9. **Claim 27** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Takeuchi et al (US 6,245,880)** in view of **Endo et al (US 4,127,590)** and **Murschall et al (US 2002/0128358).**

The discussion regarding Takeuchi and Endo in paragraph 5 above is incorporated here by reference.

Regarding claim 27, please refer to the rejection of claims 1 and 3 above for the compositional limitations.

Modified Takeuchi fails to teach the method for producing a thermoplastic resin composition comprising mixing 0.5 to 90% by weight of the thermoplastic resin composition with a thermoplastic resin whose type is the same as or different from the type of the thermoplastic resin used in the thermoplastic resin composition for masterbatches.

Murschall teaches a masterbatch ([0036]) which contains phosphorus flame retardant compounds ([0019]) and that both the resins in the masterbatch and in the final composition are polyesters ([0036]). Murschall teaches that the flame retardant is fed into the final composition via 20% by weight of the masterbatch ([0073]).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the masterbatch process of Murschall using the composition of Takeuchi. One would have been motivated to do so in order to receive the expected benefit of producing a flame-retardant resin in a cost effective manner ([0041]). They are combinable because they are concerned with the same field of endeavor, namely polyesters with flame retardants.

Double Patenting

Double Patenting I

10. **Claims 1-5, 7 and 8** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 13-18** of **U.S. Patent No. 6,245,880** in view of **Endo et al (US 4,127,590)**.

The claims of US Patent '880 recite a polyester composition with a organophosphorus compound which meets the structure as presently claimed. The claims also teach that the polyester composition comprises a zinc divalent metal.

Takeuchi teaches that the condensation catalyst is an antimony compound (col. 6, lines 1-4), however, fails to teach that the composition contains a catalyst which is aluminum or germanium.

Endo teaches a polyester composition (Abstract) with an organophosphorus compound represented by General Formula (3) Abstract. Endo teaches that the polycondensation catalyst can be metal such as antimony or germanium (col. 12, lines 22-23).

In view of Endo's recognition that antimony and germanium are equivalent and interchangeable polycondensation catalysts for polyester, it would have been obvious to one of ordinary skill in the art to substitute one with the other and thereby arrive at the present invention. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See In re Ruff 118 USPQ 343 (CCPA 1958).

11. **Claims 1-5, 7 and 8** are directed to an invention not patentably distinct from **claims 13-18** of commonly assigned **US Patent No. 6,245,880** in view of **Endo et al (US 4,127,590)**. Specifically, see the discussion in paragraph 10 above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned US '880, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were

commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Response to Arguments

12. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection. Since all the references except for the Endo reference have been carried over from the prior rejection, all arguments pertaining to these references will be addressed.

13. **Applicant's argument:** Takeuchi fails to teach that the thermoplastic resin is a polyester resin and said polyester contains at least one polymerization catalyst used for said polyester resin selected from the group consisting of an aluminum compound and a germanium compound.

Examiner's response: *This has been remedied with a newly applied secondary reference, Endo (4,127,590).*

14. **Applicant's argument:** The double patenting rejection over Takeuchi (US 6,245,880) is traversed because it does not meet the newly claimed limitation.

Examiner's response: *This has been remedied with a newly applied secondary reference, Endo (US 4,127,590).*

15. **Applicant's argument:** The double patenting rejection over copending Application 09/889,508 is traversed because it does not meet the newly claimed limitation.

Examiner's response: *This double patenting rejection has been withdrawn because the copending application has been abandoned.*

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Doris L. Lee whose telephone number is (571)270-3872. The examiner can normally be reached on Monday - Thursday 7:30 am to 5 pm and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Doris L Lee/
Examiner, Art Unit 1796

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796